Clean Harbors Wichita, LLC
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July 3, 2008

Mr. Akhter Hossain
Kansas Department of Health and Environment
Bureau of Waste Management
Curtis State Office Building
1000 SW Jackson Street, Suite 320
Topeka, KS 66612-1366

CERTIFIED MAIL# 7004 2890 0001 1687 3615

513026

A025 RCRA

RE: Clean Harbors Wichita, LLC Partial Closure

Dear Mr. Hossain,

As recently discussed with Mr. Lee Grater, this correspondence is to notify KDHE of the facility's intent to partially close several container management units, tanks and miscellaneous units per section J-4 and J-9 of the closure plan dated August 14, 1998 (revision #7), attached.

The following permitted units will be partially closed per the enclosed timeline:

Container Management Units: Building B, Building D, Building I and Building J

Tanks: V9, V10, V11, V12, V13, V14, V15A, V15B, V15C, V15D, V16, V17, V18, V26, V28, V29, V30, V31, V32

Miscellaneous Units: V20 (shredder), V21 (granulator), V34 (drum wash unit), V35 (drum scraper unit)

If you have any questions, please contact me at 513-681-5738 extension 6382 or by email at crisenberym@cleanharbors.com.

Sincerely,

Michael Crisenbery, CHMM
Director, Environmental Compliance
Clean Harbors Environmental Services

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ENVIRONMENTAL SERVICES®

CLOSURE ACTIVITY SCHEDULE - PARTIAL CLOSURE

Calendar Days Lapsed	Closure Activity
-45	Notification to KDHE or the EPA Region 7 Administrator.
0	Receipt of known final volume of hazardous waste or receipt of final closure plan approval from agency (whichever is later). Begin work-force mobilization.
	Begin treatment and removal of tank waste inventory.
	Begin treatment and removal of container waste inventory.
90	Complete treatment and removal of all hazardous waste inventories.
120	Complete decontamination of tanks, container management units and miscellaneous units.
150	Complete dismantling/removal of all generated wastes, temporary storage units, and decontaminated tanks, equipment, and structures (if removal is necessary).
	Visually inspect surface soils for contamination and begin remediation procedures if necessary.
180	Complete final closure activities.
200	Inspection of facility by a Professional Engineer.
240	Submit a certification of closure to KDHE or the EPA Region 7 Administrator.

Cc;
File
Mostafa Kamal @ KDHE
Christine Jump @ USEPA
Keith Anderson @ CLHB
Matt Noble @ CLHB

Clean Harbors Kansas, LLC
RCRA Permit Application
Section J
Closure Plan

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August 14, 1998
Revision No. 7

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Drawings Located in Section Y, Drawings

Drawing 50-01-10-002, Material Containment Areas
Drawing 50-01-03-001, Tank Locations
Drawing 50-57-10-001, Miscellaneous Unit Locations

Acronym Table

Clean Harbors Kansas, LLC (SKW)
Treatment, Storage, or Disposal Facilities (TSDFs)
Title 40 of the Code of Federal Regulations (40 CFR)
Hazardous Waste Management Units (HWMUs)
National Priorities List (NPL)
Potentially Responsible Party (PRP)
Kansas Department of Health and Environment (KDHE)
Toxic Characteristic Leaching Procedure (TCLP)
Container Management Unit (CMU)
Toxic Characteristic Leaching Procedure (TCLP)

J-1 Introduction

This plan describes the activities to be performed at Clean Harbors Kansas, LLC at the time of facility closure; it addresses both partial unit closures and final facility closure. This plan is contained in the RCRA/HSWA Part B permit application as Section J. When the permit is issued pursuant to this application, this plan will supersede the existing plans covering current interim status operations.

The facility stores, treats, and recovers for recycling hazardous and nonhazardous wastes. LESW blends BTU containing materials for beneficial use and energy recovery as cement kiln fuel and recovers solvents for further management. Clean Harbors Kansas, LLC also stores, processes, and/or manages waste solvents, sludges, solids, and water for subsequent shipment to other permitted Treatment, Storage, or Disposal Facilities (TSDFs) for distillation, beneficial reuse, further treatment or disposal. Clean Harbors Kansas, LLC also stores waste solvent, hydrocarbons, paint-related waste streams, solids, corrosive waste streams, and water-based waste streams. Storage and treatment occurs in both containers and tanks. (For

a more complete description of activities at Clean Harbors Kansas, LLC, see Section B, Facility Description.) The facility operates under EPA I.D. No. KSD007246846.

The Clean Harbors Kansas, LLC facility does not include disposal units. Also, all tank systems are equipped with secondary containment meeting the requirements of Title 40 of the Code of Federal Regulations (40 CFR) 264.193 (b) through (f). Therefore, the facility is subject to neither the post-closure care requirements of 40 CFR 264.116 through 264.120, nor the contingent post-closure plan requirements of 40 CFR 264.197(c).

J-2 Hazardous Waste Management Units to be Closed

The Clean Harbors Kansas, LLC facility's existing hazardous waste management units are summarized in Table J.1, Maximum Extent of Operations - Clean Harbors Kansas, LLC - Hazardous Waste Management Units, presented in Appendix J-A, Tables. Specific descriptions of container management units, tank systems, and miscellaneous units are located in Sections D (Container Management), E (Tank Management), and M (Miscellaneous Units), respectively.

J-3 Closure Performance Standard

Clean Harbors Kansas, LLC will close each hazardous waste management unit and/or the entire facility in a manner that minimizes the need for further maintenance, and controls, minimizes, or eliminates (to the extent necessary to protect human health and the environment) post-closure escape of hazardous waste, hazardous constituents, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

Clean Harbors Kansas, LLC will meet this performance standard by removing all hazardous wastes and hazardous waste constituents to acceptable levels (see Section J-4a). All containers, tanks, miscellaneous units, piping, and other ancillary parts to the systems will be closed in one of the following ways:

1. They will be dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site disposal facility.

2. They will be decontaminated in accordance with the procedures discussed in Section J-4a and disposed of at a solid waste landfill.

3. They will be decontaminated sufficiently to be salvaged for future use.

4. They will be transferred for use at another RCRA facility.

All permanent structures (e.g., concrete containment systems) will be closed in one of the following ways.

1. They will be dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site disposal facility.

2. They will be decontaminated in accordance with the procedures discussed in Section J-4a and disposed of at a solid waste landfill.

3. They will be decontaminated in accordance with the procedures discussed in Section J-4a and maintained in place for future use.

All analyses performed to verify that closure performance standards are met shall be performed at a laboratory certified by the state of Kansas for the specific analytical procedures used.

J-3a Establishment of Cleanup Standards

Clean Harbors Kansas, LLC will close the subject Hazardous Waste Management Units (HWMUs) by removal of the waste so that there will not be any need for post-closure monitoring and maintenance of the units.

Since all units at Clean Harbors Kansas, LLC have secondary containment, any leaks, spills, drips, etc. will have been contained, removed, and cleaned up in accordance with the operating conditions of this permit. Therefore, the surrounding soils and/or groundwater should not have been contaminated by regulated units during facility operations under this permit application.

The property on which the Clean Harbors Kansas, LLC facility is located is included within the boundaries of the 29th and Mead Comprehensive Environmental Response, Compensation, and Liability Act or "Superfund" Site in Wichita, Kansas. The 29th and Mead Superfund Site is listed on the National Priorities List (NPL). Reid Supply Company has been named a Potentially Responsible Party (PRP) in the 29th and Mead Superfund Site. In 1986, Conservation Services, Inc. purchased certain assets, including the permit (operating under EPA I.D. #KSD007246846), from Reid Supply Co., Inc. Subsequently, Hydrocarbon Recyclers, Inc. of Wichita acquired the capital stock of Conservation Services, Inc. in 1987. The Reid Supply Company property functioned as a storage, recycling, and collection point for hazardous waste material and as a bulk chemical repackaging and distribution center since the 1970s.[1]

The 29th and Mead Superfund Site, located in north Wichita, Kansas, is bounded by 37th Street on the north, I-135 on the east, 17th Street on the south, and Broadway Street on the west. Located in a heavy industrial area, the Site has evolved over a 95 year time span, approximately. Current industry includes, but is not limited to, chemical supply companies, grain elevators, railroad facilities, metal fabricating companies, foundries, refineries, meat processing companies, recyclers/salvage facilities, roofing companies, concrete companies, food processing companies, and gasoline retailers.[1]

Past investigations, including one performed by Groundwater Technology, Inc.[1], have indicated the presence of soil and groundwater contamination. The investigation and remediation plan for the 29th and Mead Superfund Site is in preparation by U.S. EPA Region VII contractors. Due to this investigation into potential contamination of the area, the Clean Harbors Kansas, LLC facility currently does not plan to conduct independent soil or groundwater studies during closure. At final closure, LESW will use the Superfund site cleanup levels as the target levels for closure performance

standard for soils and groundwater (as appropriate) at the site. In the event that the Superfund cleanup levels have not been determined at the time of final facility closure, a health risk assessment will be performed and used to set the target closure levels for contaminants in soils and groundwater at the site. The health risk assessment and the recommended target levels will be provided to the appropriate regulatory agency for review and approval prior to implementation. During partial closure, soils will be removed or decontaminated if contaminant levels exceed background levels, as determined using the procedures in Section J-4. Subsequent removal of soils from the same area may occur at final closure, depending upon the target levels defined as discussed in the preceding paragraph.

Clean Harbors Kansas, LLC may amend this closure plan in the future in accordance with 40 CFR 270.42.

Because the scope and extent of future site remediation is unknown, this closure plan will address only potential contamination which resulted from hazardous waste management at Clean Harbors Kansas, LLC Consequently, all areas where evidence of visible contamination exists and areas beneath secondary containment will be evaluated and closed in accordance with J-4a of this closure plan.

During facility operations under this permit application, hazardous waste management areas are covered and have secondary containment which includes diking. These controls minimize precipitation run-on and run-off and will subsequently be maintained during closure. These structures will not be removed until after all associated hazardous waste management units are decontaminated; or, if demolition is required, other practical methods will be implemented to control run-on and run-off.

Because the Clean Harbors Kansas, LLC facility does not contain waste piles or surface impoundments, and the facility is not a disposal facility, other

activities such as groundwater monitoring and leachate collection are not applicable as part of closure.

J-4 Partial Closure and Final Closure Activities

Partial facility closure (i.e., closure of individual hazardous waste management units) may be necessary during the active life of the facility. If partial closure is necessary, the individual hazardous waste management unit would be closed in accordance with Section J-9 of this closure plan. Currently, however, LESW plans to close all existing hazardous waste management units during the final facility closure. Clean Harbors Kansas, LLC will close the facility in accordance with the following procedures.

1. Clean Harbors Kansas, LLC will notify the Kansas Department of Health and Environment (KDHE) or the United States Environmental Protection Agency (USEPA), Region 7, Administrator at least 45 days before Clean Harbors Kansas, LLC intends to begin final closure (within 30 days after receiving the known final volume of hazardous waste into a hazardous waste management unit).

2. If modifications to this closure plan are desired and have not been previously approved in accordance with 40 CFR 270.42 and 264.112, the modified portions of the plan will not be implemented until approval by KDHE or other

authorized agencies has been received.

3. Within 90 days after receiving the final volume of hazardous wastes at a hazardous waste management unit or the facility, LESW will either treat or remove from the unit or facility all hazardous wastes in accordance with this closure plan, unless an extension has been requested and approved in accordance with 40 CFR 264.113(a).

4. Clean Harbors Kansas, LLC will complete final closure activities within 180 days after receiving either the final volume of hazardous wastes or final closure plan approval from the agency (whichever is later), unless an extension has been requested and approved in accordance with 40 CFR 264.113(b).

5. Clean Harbors Kansas, LLC will close the facility in accordance with the schedule discussed in Section J-7 and outlined in Table J.3, Closure Activity Schedule - Final Facility Closure, of this closure plan.

6. The container management units will be closed in accordance with Section J-9a of this closure plan. The tank systems will be closed in accordance with Section J-9b of this plan. All miscellaneous units will be closed in accordance with Section J-9c of this plan.

7. All contaminated equipment and structures will be either properly disposed of as hazardous waste or decontaminated in accordance with Section J-4a of this closure plan. After decontamination, equipment (such as hand tools, forklifts, and conveyers) and structures may be salvaged for future use.

8. Clean Harbors Kansas, LLC will visually inspect the surface soils at the facility. In accordance with Section J-4a of this closure plan, any visible evidence of contamination will be evaluated for hazardous constituents and (if contamination is present) subsequently removed for proper disposal. The target levels for soil contaminants at partial closure will be determined by comparison to local background levels. For final closure, target levels for closure will be determined by comparison to Superfund cleanup levels or, if necessary, levels set using a site-specific health risk assessment.

9. All wastes generated from closure activities will be handled in accordance with Section J-4b of this closure plan.

10. The Clean Harbors Kansas, LLC facility does not contain disposal units. All tank systems have secondary containment meeting the requirements of 40 CFR 264.193 (b) through (f).

Also, all hazardous

wastes and hazardous waste constituents will be removed from the facility during final closure and all structures will be decontaminated in accordance with this closure plan.

Therefore, the facility is subject to neither the post-

closure care requirements of 40 CFR 264.116 through 264.120, nor the contingent post-closure plan requirements of 40 CFR 264.197(c).

11. Within 60 days of final closure completion, Clean Harbors Kansas, LLC will submit, either by hand delivery or by registered mail, a certification of closure to KDHE or to the Regional Administrator of the USEPA, Region 7. The certification will be signed by LESW, as the owner/operator of the facility, and by an independent registered professional engineer attesting that the units were closed in accordance with this closure plan.

J-4a Disposal or Decontamination of Equipment, Structures and Soils

During the partial and final closure periods, all contaminated equipment and structures will be either properly disposed of or decontaminated.

J-4a(1) Soils

As discussed in Section J-3a, Clean Harbors Kansas, LLC does not currently plan to perform extensive soil or groundwater studies for the purpose of closure because this would duplicate the pending Superfund investigation into potential historical contamination of the site and the surrounding area. The extent of remedial action which will be required at the 29th and Mead Superfund Site has not been determined.

During closure operations, Clean Harbors Kansas, LLC will inspect the immediate area around all hazardous waste management units for indications of contamination. Any visible evidence of contamination (e.g., staining, discoloration) will be evaluated for hazardous constituents (performing limited soil sampling and analysis if applicable) and, if contamination is present, the soils will be removed for proper disposal. In addition, the concrete base of the containment system will be inspected for evidence of damage (e.g., cracking, pitting, etc.). If this damage may have resulted in migration of hazardous constituents from the containment system, further investigations will be performed to
determine the presence and extent of contamination, if any.

Visibly contaminated soil, either adjacent to or under containment systems of waste management units, will be removed. Excavated soil and debris will be analyzed according to standard laboratory procedures for the presence of hazardous constituents and managed in accordance with applicable regulations. Procedures for sampling and analysis of soil remaining after excavation (if applicable) are listed below.

1. For partial closure involving possible soil contamination, six representative background samples will be taken on-site but away from the visible contamination at depths of 0-18 inches and 18-36 inches at each of three sample points and analyzed using either USEPA SW-846 8260 and/or SW-846 8015, modified, or another equivalent, acceptable method. For all methods of record, deviations from SW-846 methods have either been included in the Waste Analysis Plan (Section C) for agency approval at this time, or will be submitted to the agency for approval prior to use. Background samples will be taken from the same soil type and at the same soil horizon as non-background samples. The facility "background" will be considered the mean plus two standard deviations.

2. All soil analysis procedures will be conducted in accordance with either USEPA method SW-846 numbers 6010, 7471, and/or 8260, modified (as appropriate) or other equivalent procedures. For all methods of record, deviations from SW-846 methods have either been included in the Waste Analysis Plan (Section C) for agency approval at this time, or will be submitted to the agency for approval prior to use.

3. Proper QA/QC procedures will be followed to control the potential loss of VOCs during sampling and transport.

4. All visibly contaminated soil will be removed.

5. All visibly contaminated soil which has been removed will be handled in accordance with Section J-4b of this closure plan.

6. After removal of the contaminated soil, three samples will be taken from inside the area of removed soil at depths of 0-6 inches, 12-18 inches, and 24-30 inches. The samples will be analyzed using USEPA SW-846 8260 and SW-846 8015, modified, and in accordance with Step 2 above.

7. For partial closures, soil will be considered clean for closure when results of sample analyses are either at or below on-site background levels as determined under Item 1 of this list. For final closure, soil will be considered clean for closure when results of sample analyses are at or below health risk based

levels determined in conjunction with the Superfund process, or alternate standards determined using a health risk assessment and approved by KDHE.

8. If the soil does not meet the conditions specified in Step 7 above, soil will be removed to six inches below the lowest contaminated sample detected. If the 24-30 inch soil horizon shows contamination as defined in Step 7, Steps 6 through 8 will be repeated.

During final closure operations, the soil beneath containment systems of all hazardous waste management units will be closed as follows.

1. A visual inspection for evidence of release (i.e., staining or discoloration of soil, or damage to containment system) will be performed to determine selected sites for soil or concrete sampling. At the time of closure, if cracks or gaps which may have resulted in contaminant migration are observed in the hazardous waste management unit, a

sample site will be located on or near the crack location. Concrete corings will not be taken in any unit for which the facility can document that there has not been a major release during the operating period. Concrete corings will be taken in Building I, and in units in which major releases have been documented during the operating period.

2. Collect samples at three depths, 0-6 inches, 12-18 inches, and 24-30 inches, at each sample point and analyze using either USEPA SW-846 8260 and/or SW-846 8015, modified, or another

acceptable method. The samples from each horizon will be composited. For all methods of record, deviations from SW-846 methods have either been included in the Waste Analysis Plan (Section C) for agency approval at this time, or will be submitted to the agency for their approval prior to use.

3. Collect background samples in accordance with Item 1 on page 14 of this Closure Plan, unless background levels have already been determined for the site.

4. Proper QA/QC procedures will be followed to control the potential loss of VOCs during sampling and transport.

5. Soil analysis procedures will be according to either USEPA method SW-846 numbers 6010, 7471 and/or 8260, modified (as appropriate) or other acceptable method. For all methods of record, deviations from SW-846 methods have either been included in the Waste Analysis Plan (Section C) for agency approval at this time, or will be submitted to the agency for their approval prior to use.

6. For partial closures, soil will be considered clean for closure when results of sample analysis are at or below on-site background levels as determined under Item 1 on page 13. For final closure, soil will be considered clean for closure when results of sample analyses are at or below health risk based levels determined in conjunction with the Superfund process, or alternate standards determined using a health risk assessment and approved by KDHE.

7. If large areas of soil contamination, in excess of closure standards, are identified, a project specific assessment and cleanup plan will be prepared and submitted to the KDHE for approval and subsequent implementation. This will be done in accordance with the permit modification procedures of 40 CFR 270.42.

J-4a(2) Hazardous Waste Management Units (HWMUs)

Decontamination procedures for hazardous waste management units (i.e., tank systems, container storage units, and miscellaneous units) are discussed in the following paragraphs. Specific procedures are outlined based on configuration of the equipment. "Exposed surfaces" are external surfaces and those internal surfaces which are readily scraped, sandblasted, brushed, or swept (i.e., accessible to standard techniques for removal of residual materials).

J-4a(2)(a) HWMUs with no internal or complicated external parts

All tank systems, container management units, and miscellaneous units and their associated secondary containment system components and ancillary equipment will be decontaminated as follows (unless the unit has internal and/or complicated external parts exposed to waste).

1. Surfaces will be scraped, sandblasted, brushed, or swept to remove all loose or caked residue. Surfaces will then be triple rinsed. The first wash/rinse will be performed with a high-pressure stream of steam or water with suitable detergents or other cleaning additives. The second

wash/rinse will be performed using clean water with cleaning additives. Accumulated liquids from the two first washes will be collected and handled in accordance with Section J-4b of this closure plan. The third wash/rinse will be performed with clean (potable) water.

2. The equipment will be visually inspected after the triple wash/rinse to assess the presence of visible residue. If necessary, the facility will repeat all, or part, of the above procedures.

3. A representative sample will be taken of the rinse water from the final rinse of each hazardous waste management unit. These samples will be analyzed for total concentrations of all constituents with Maximum Concentration Limits (MCL) defined in 40 CFR 264.94.

4. A unit will be considered decontaminated when the rinsate sample analysis results are lower than the MCLs defined in 40 CFR 264.94, and when no visible residues remain on the unit.

5. If the unit is not decontaminated after performing Steps 1 through 4, the facility will either repeat the above procedures or dismantle the unit for further management and/or disposal at an off-site permitted TSDF as a hazardous waste. Equipment disposed of in a landfill will meet the applicable Land Disposal Restriction (LDR) standards of 40 CFR 268.

J-4a(2)(b) HWMUs with internal or complicated external parts

Any tank systems or miscellaneous units with external or complicated internal parts exposed to wastes (such as the Shredding Unit) will be decontaminated as follows.

1. Exposed surfaces will be scraped, sandblasted, brushed, or swept to remove all loose or caked residue. Surfaces will then be triple rinsed. The first wash/rinse will be performed with a high-pressure stream of steam or water with suitable detergents or other cleaning additives. The second wash/rinse will be performed using clean water with cleaning additives. Accumulated solids and liquids from the two first washes will be handled in accordance with section J.4b of this closure plan. The third wash/rinse will be performed with clean water.

2. The equipment will be visually inspected after the triple wash/rinse to assess the presence of visual residue. If necessary the facility will repeat all, or part, of the above procedures.

3. If visible contamination remains, go to Step 5 below. If no visible contamination remains, the facility will take a representative sample of the rinse water from the final rinse of the hazardous waste management unit. These samples will be analyzed according to the TCLP (40 CFR 261.24 as amended June 29, 1990).

4. A unit will be considered decontaminated when the rinsate sample analysis results are lower than the values/levels listed in Table J.2, and when no visible residues remain on the unit.

5. If, after performing the above rinsing procedures, the equipment can not be decontaminated, the equipment will be transported by a licensed/permitted hauler to an off-site, permitted TSDF for further treatment or disposal. Equipment disposed of in a landfill will meet the applicable Land Disposal Restriction (LDR) standards of 40 CFR 268.

J-4a(3) Closure of Miscellaneous Handling Equipment

A wide variety of equipment on site may be used for hazardous waste management. Equipment which has been in contact with hazardous waste will be decontaminated during closure activities. Equipment which may require decontamination during closure includes (but is not limited to) industrial trucks, drum dollies, handcarts, conveyers, augers, and other material transfer equipment, as well as hand tools such as shovels, brushes, scrapers, etc. During final facility closure, this equipment will be closed in one of the following ways:

. For closure of small equipment (such as hand tools), if visible contamination exists, the equipment will be dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site disposal facility,

- For closure of all equipment (including hand tools), if visible contamination exists, equipment will be decontaminated and disposed of at a solid waste landfill. If evidence of contamination exists after decontamination, the equipment will be transported by a permitted/licensed hauler to a permitted RCRA/HSWA off-site TSDF for further treatment or disposal, or

- For closure of all equipment (including hand tools), if visible contamination exists, equipment will be decontaminated sufficiently to be salvaged for future use and potentially transferred for use at another RCRA facility.

J-4a(3)(a) Decontamination of small miscellaneous handling equipment

All hand tools and equipment without internal or complicated external parts will be decontaminated in accordance with the following procedures.

1. Surfaces will be scraped, sandblasted, brushed, or swept to remove all loose or caked residue. Surfaces will then be rinsed with a high-pressure stream of steam or water, possibly with suitable detergents or other cleaning additives, until either all visible contamination is removed, or until further removal is not feasible. All accumulated solids and liquids will be handled in accordance with section J-4b of this closure plan.

2. The equipment will be visually inspected for evidence of visible contamination.

3. The equipment will be considered decontaminated when no visible evidence of contamination exists.

4. If visible evidence of contamination remains and cannot be removed, the equipment will be disposed of as a hazardous waste.

J-4a(3)(b) **Decontamination of large miscellaneous handling equipment with no internal or complicated external parts**

All large equipment with no internal or complicated external parts will be decontaminated as follows.

1. Surfaces will be scraped, sandblasted, brushed, or swept to remove all loose or caked residue. Surfaces will then be triple rinsed. The first wash/rinse will be performed with a high-pressure stream of steam or water with suitable detergents or other cleaning additives. The second wash/rinse will be performed using clean water with cleaning additives. Accumulated solids and liquids from the two first washes will be handled in accordance with section J.4b of this closure plan. The third wash/rinse will be performed with clean water.

2. The equipment will be visually inspected after the triple wash/rinse to assess the presence of visual residue. If necessary, the facility will repeat all, or part, of the above procedures.

3. A representative sample will be taken of the rinse water from the final rinse of each hazardous waste management unit. These samples will be analyzed for total concentrations of MCL constituents.

4. Except in cases where the Hazardous Waste Debris Rule applies, the equipment will be considered decontaminated when the rinsate sample analysis results are lower than the MCLs defined in 40 CFR 264.94, and when no visible residues remain on the unit.

5. If the unit is not decontaminated after performing Steps 1 through 4, the facility will either repeat the above procedures or dismantle the unit and transport it by a licensed/permitted hauler to an off-site, permitted TSDF for further treatment or disposal.

J-4a(3)(c) **Decontamination of large miscellaneous handling equipment with internal or complicated external parts**

All large equipment with internal and/or complicated external parts that contact waste will be decontaminated in accordance with the following procedures.

1. Surfaces will be scraped, sandblasted, brushed, or swept to remove all loose or caked residue. Surfaces will then be triple rinsed. The first wash/rinse will be performed with a high-pressure stream of steam or water with suitable detergents or other cleaning additives. The second wash/rinse will be performed using clean water with cleaning additives. Accumulated solids and liquids from the two first washes will be handled in accordance with section J.4b of this closure plan. The third wash/rinse will be performed with clean water.

2. The equipment will be visually inspected after the triple wash/rinse to assess the presence of visual residue. If necessary the facility will repeat all, or part, of the above procedures.

3. If visible contamination remains, go to Step 5 below. If no visible contamination remains, the facility will take a representative sample of the rinse water from the final rinse of the hazardous waste management unit. These samples will be analyzed for total concentrations of MCL constituents.

4. A unit will be considered decontaminated when the rinsate sample analysis results are lower than the MCLs defined in 40 CFR 264.94, and when no visible residues remain on the unit.

5. If after performing the above rinsing procedures, the equipment can not be decontaminated, the equipment will be transported by a licensed/permitted hauler to an off-site, permitted TSDF for further treatment or disposal. Equipment disposed of in a landfill will meet the applicable Land Disposal Restriction (LDR) standards of 40 CFR 268.

J-4b Hazardous Waste Handling Procedures

All contaminated solids, liquids, sludges, soils, and debris generated by the closure process will be managed in accordance with applicable regulations as site generated solid waste (i.e., Clean Harbors Kansas, LLC is the generator). Generated wastes meeting the definition of "hazardous waste" under 40 CFR 261.3 will be handled in the manner discussed below.

Site-generated hazardous wastes may be stored on-site in containers, existing tanks, or temporary portable tanks prior to treatment or removal from the facility. The wastes may be treated on-site in accordance with the facility's RCRA/HSWA permit. A temporary storage area may be developed for storage of these generated wastes, and if so, wastes will be stored in this area for less than ninety days. These wastes will then be transported to a permitted off-site Treatment, Storage, or Disposal Facility (TSDF) by a permitted hazardous waste hauler for appropriate disposal or further treatment (e.g. landfill, deep-well injection, incineration, cement kiln, recycling facility).

J-5 Maximum Extent of Operations

Table J.1 lists all existing and proposed hazardous waste management units at the Clean Harbors Kansas, LLC facility. This table represents the maximum extent of operations which are currently planned to exist at this facility.

J-6 Maximum Waste Inventory

The maximum inventory of wastes in storage exists when all hazardous waste management units contain their maximum permitted capacity of waste. The facility's potential maximum waste inventory is 463,477 gallons.[a]

[a] The maximum waste inventory was calculated by adding S01 (storage in containers) and S02 (storage in tanks) in the Part A permit application.

325,490 gallons (S01) + 137,987 gallons (S02) = 463,477 gallons

J-7 Schedule for Final Closure

Table J.3, Closure Activity Schedule - Final Facility Closure outlines the anticipated schedule for closing the Clean Harbors Kansas, LLC facility. The schedule assumes that all hazardous waste management units identified in this plan (See Table J.1) will be closed.

During final closure, hazardous waste management units may be closed simultaneously or sequentially. Also, a temporary storage area may be developed for storage of wastes which are generated on-site during closure activities, and if so, wastes will be stored in this area for less than ninety days in appropriate containers or temporary tanks.

J-7a Expected Year of Final Closure

Clean Harbors Kansas, LLC does not expect to close the facility prior to the permit expiration (i.e., ten years after the effective date of the permit). Since the facility does not consist of disposal units such as landfills or surface impoundments, capacity restraints (such as landfill capacity) do not exist to force facility

closure. Therefore, Clean Harbors Kansas, LLC will not estimate the year of final closure [per 40 CFR 264.112(b)(7)].

J-8 Closure Plan Amendment

Clean Harbors Kansas, LLC maintains a copy of the closure plan at the facility. Clean Harbors Kansas, LLC will submit a written request for approval to change the closure plan, in accordance with 40 CFR 264.112(c) and 40 CFR 270.42, whenever one of the following occurs.

1. Changes in operating plans or facility design affect the closure plan.

2. Change in the estimated year of final closure (see section J-7a).

3. In conducting partial or final closure activities, unexpected events occur which affect the closure plan.

This notification will include a copy of the amended closure plan for review or approval by KDHE. It will be submitted at least 60 days prior to the proposed change in facility design or operation, or no later than sixty days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure

period, Clean Harbors Kansas, LLC will submit the notification or request no later than 30 days after the unexpected event's occurrence.

J-9 Individual Unit Closures

This section details the closure procedures of each individual hazardous waste management unit. During final facility closure and partial facility closure, each hazardous waste management unit will be closed in accordance with this section.

J-9a Container Management Unit (CMU) Closure

Partial facility closure (closure of an individual hazardous waste management unit), may be necessary during the active life of the facility. If a container management unit must be closed during the active life of the facility, it will be closed in accordance with this section (J-9a). At final closure of a container management unit, all hazardous waste and hazardous waste residues will be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be either decontaminated or removed.

J-9a(1) Process and Unit Description

The container management units at the Clean Harbors Kansas, LLC facility are used for storing and staging containers of hazardous and non-hazardous wastes. The container management units may also be used for the treatment of hazardous waste in containers. The wastes managed in these areas include liquids, sludges, and solids and are managed in containers of varying sizes. The LESW facility manages containerized waste in seven container management buildings, each roofed and constructed with concrete diking to minimize run-on and run-off. These buildings are divided into independently contained sub-areas called Container Management Unit (CMU)s. The maximum total permitted storage capacity of container management units on site is approximately 325,490 gallons. Figure J.1, Material Containment Areas (Drawing 50-01-10-002, Material Containment Areas presented in Section Y) depicts the location of each CMU at the facility; Section D of this permit application describes each CMU in more detail.

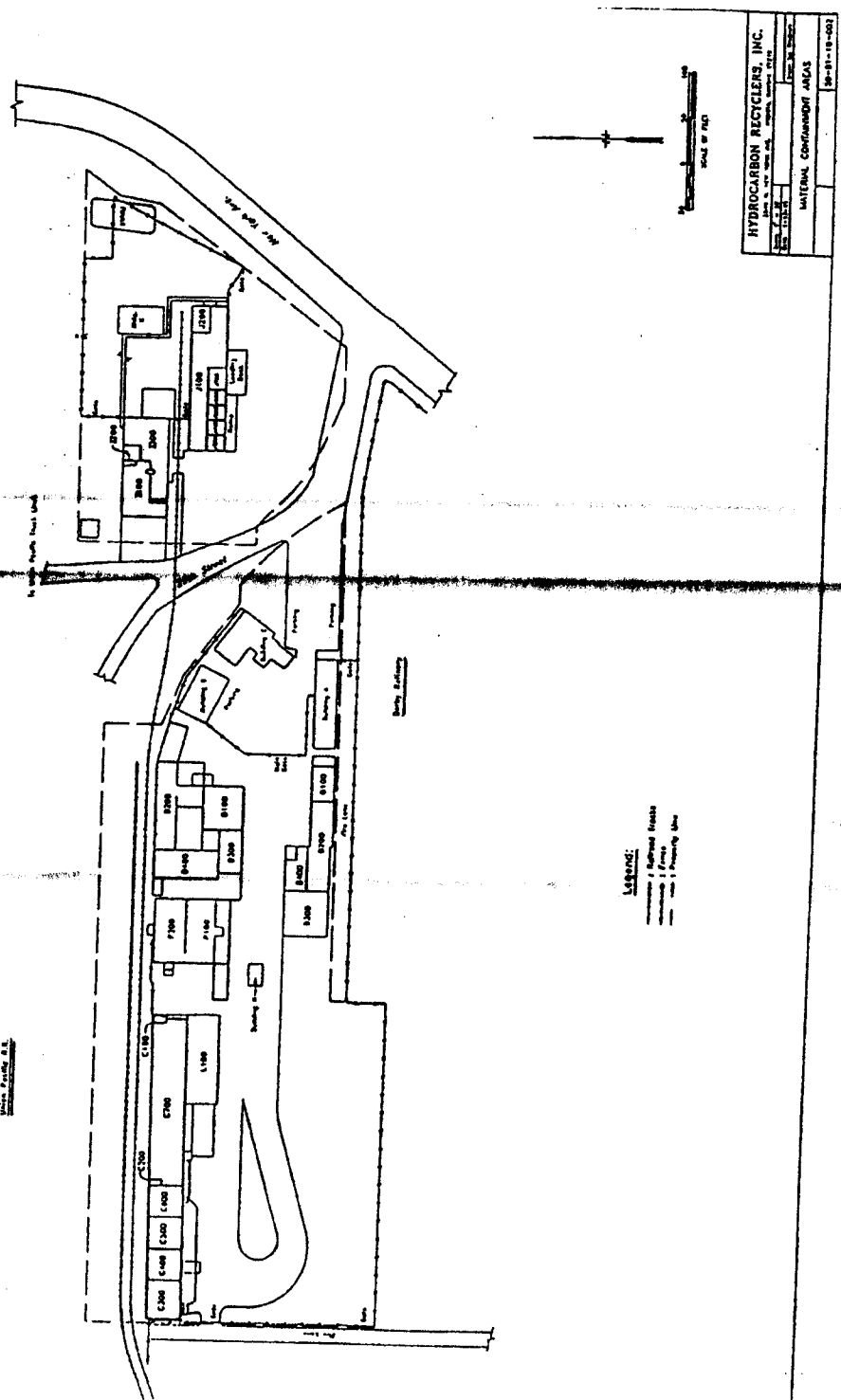

Figure J.1. Material Containment Areas

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J-9a(2) Unit Closure Procedures

For the purposes of this closure plan, each container management unit includes the following structures/equipment:

- Containers, drums, pallets, marino bags, etc., and associated hazardous wastes, waste residues and constituents.

- **All associated secondary containment structures** (concrete pads, curbs, ramps, etc.).

- Associated equipment (e.g., conveyors, etc.).

Buildings which enclose CMUs and which do not come into direct contact with hazardous waste or hazardous waste containers are not part of the container management unit. Therefore, the buildings associated with CMUs, including floors which are not part of the container management unit, will not be subject to the decontamination procedures of this closure plan and may be left in place. However, these walls and floors will be visually

inspected and, if evidence of contamination exists, these structures will be cleaned.

Clean Harbors Kansas, LLC will close all CMUs at the facility as follows.

1. If modifications to the closure plan are desired and have not been previously approved in accordance with 40 CFR 270.42 and 264.112, the modified portions of the plan will not be implemented until approval by KDHE or other authorized agencies has been received.

2. Clean Harbors Kansas, LLC will close the CMU(s) in accordance with the schedule outlined in Table J.4, Closure Activity Schedule - Container Management Unit (CMU) and discussed in Section J-9a(3) of this closure plan.

3. Within ninety days after receiving the final volume of hazardous wastes at the CMU(s), Clean Harbors Kansas, LLC will remove all waste inventory and portable equipment from the area unless an extension has been requested and approved in accordance with 40 CFR 264.113(a). All waste inventories will be either treated on-site in accordance with the facility's RCRA/HSWA permit or transported to a permitted TSDF for off-site management.

Clean Harbors Kansas, LLC will attempt to empty all drums to the extent described by 40 CFR 261.7(b) to satisfy the requirements for the exemption as defined by 40 CFR 261.7(a)(1). The successfully emptied drums will be transported to an off-site industrial waste disposal facility or a permitted RCRA/HSWA TSDF for disposal. If a container cannot be emptied to meet the definition in 40 CFR 261.7(b), then the container will be transported by a licensed hazardous waste hauler to a permitted off-site RCRA/HSWA TSDF for management.

4. All contaminated equipment, structures, and secondary containment systems will be:

   A. Dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site disposal facility, or

   B. Decontaminated in accordance with Section J-4a and disposed of at a solid waste landfill, or

   C. Decontaminated in accordance with Section J-4a and either salvaged for future use or left in place.

D. Successfully decontaminated equipment may be transferred to another TSDF for use.

5. Clean Harbors Kansas, LLC will visually inspect the surface soils around the CMU(s). Any visible evidence of contamination will be evaluated for hazardous constituents and (if contamination is present) subsequently removed for proper management in accordance with Section J-4a of this closure plan.

   At final closure, the soil beneath the secondary containment systems will be closed in accordance with Section J-4a of this closure plan.

6. All wastes generated on-site from closure activities will be handled in accordance with Section J-4b of this closure plan.

7. Clean Harbors Kansas, LLC will complete closure activities within 180 days after receiving either the final volume of hazardous wastes or closure plan approval by the agency, unless an extension has been requested and approved in accordance with 40 CFR 264.113(b).

8. The CMUs are not disposal units. Also, all hazardous wastes and hazardous waste constituents will be removed from the CMU during closure and all structures will be decontaminated in accordance with this closure plan. Therefore, the CMUs are not subject to the post-closure care requirements of 40 CFR 264.116 through 264.120.

J-9a(3) Unit Closure Schedule

Table J.4 outlines the anticipated schedule for the individual closure of a container management unit at the Clean Harbors Kansas, LLC facility. During final closure of the facility, all HWMUs may be closed simultaneously and in accordance with the schedule presented in Table J.3.

J-9b Tank System Closure

Partial facility closure (closure of an individual hazardous waste management unit) may be necessary during the active life of the facility. If a tank or tank system must be closed during the active life of the facility, it will be closed in accordance with this section (J-9b). At closure of a tank or tank system, all hazardous waste and hazardous waste residues will be removed from the tank/tank system. Tanks, ancillary equipment, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be either decontaminated or removed.

J-9b(1) Process and Unit Description

Tank systems at the Clean Harbors Kansas, LLC facility include storage/treatment tanks; the maximum permitted storage capacity of tanks on site is 137,987 gallons. The storage/treatment tanks have several uses at the Clean Harbors Kansas, LLC facility, some of which are discussed below.

- Solvent and solid waste streams are blended, accumulated, and stored in tanks prior to being transported to an off-site cement kiln to be burned as an alternative fuel.

- Other wastes are received from generators either in drums or bulk and are transferred to tanks to await transportation to an off-site reclamation facility, incinerator, deep-well injection facility, landfill or other permitted TSDF.

- Finally, the Clean Harbors Kansas, LLC facility manages solvent laden cartridges (e.g., dry cleaning cartridges). Cartridges are shredded and/or dried to recover solvent or other material for energy recovery and/or reuse, or they may be sent to an off-site TSDF without on-site processing. Recovered vapors are condensed and accumulated in a vessel which is purged after each drier batch. The solvent and water are separated in a phase separation tank, and then stored separately in designated tanks prior to shipment off-site to a TSDF for further reclamation, for disposal, or for other appropriate management.

The tanks used at Clean Harbors Kansas, LLC vary in size. All tanks utilized for

hazardous waste management are equipped with a manual gaging port and high level alarms to minimize the potential for overflow.

All hazardous waste management tanks operating under this permit

have secondary containment designed, installed, and operated to prevent migration of wastes or accumulated liquid to the environment. These containment systems, consisting of concrete slabs surrounded by concrete walls or dikes of varying height, enable the detection of and collection of releases and accumulated liquids. The concrete containment liner is also maintained free from cracks and gaps.

These tanks are summarized in Table J.1. In addition, Figure J.2, Tank Locations (Drawing 50-01-03-001, Tank Locations presented in Section Y) shows the location of each tank system at the facility. Section E of this permit application describes the tank systems in more detail. The tank systems are designed, constructed, and operated in accordance with 40 CFR 264.190 through 199.

J-9b(2) **Unit Closure Procedures**

For the purposes of this closure plan, each tank system includes:

- Tanks and associated hazardous wastes, waste residues and constituents;

. All ancillary equipment including, but not limited to, piping, fittings, flanges, valves, and pumps; and

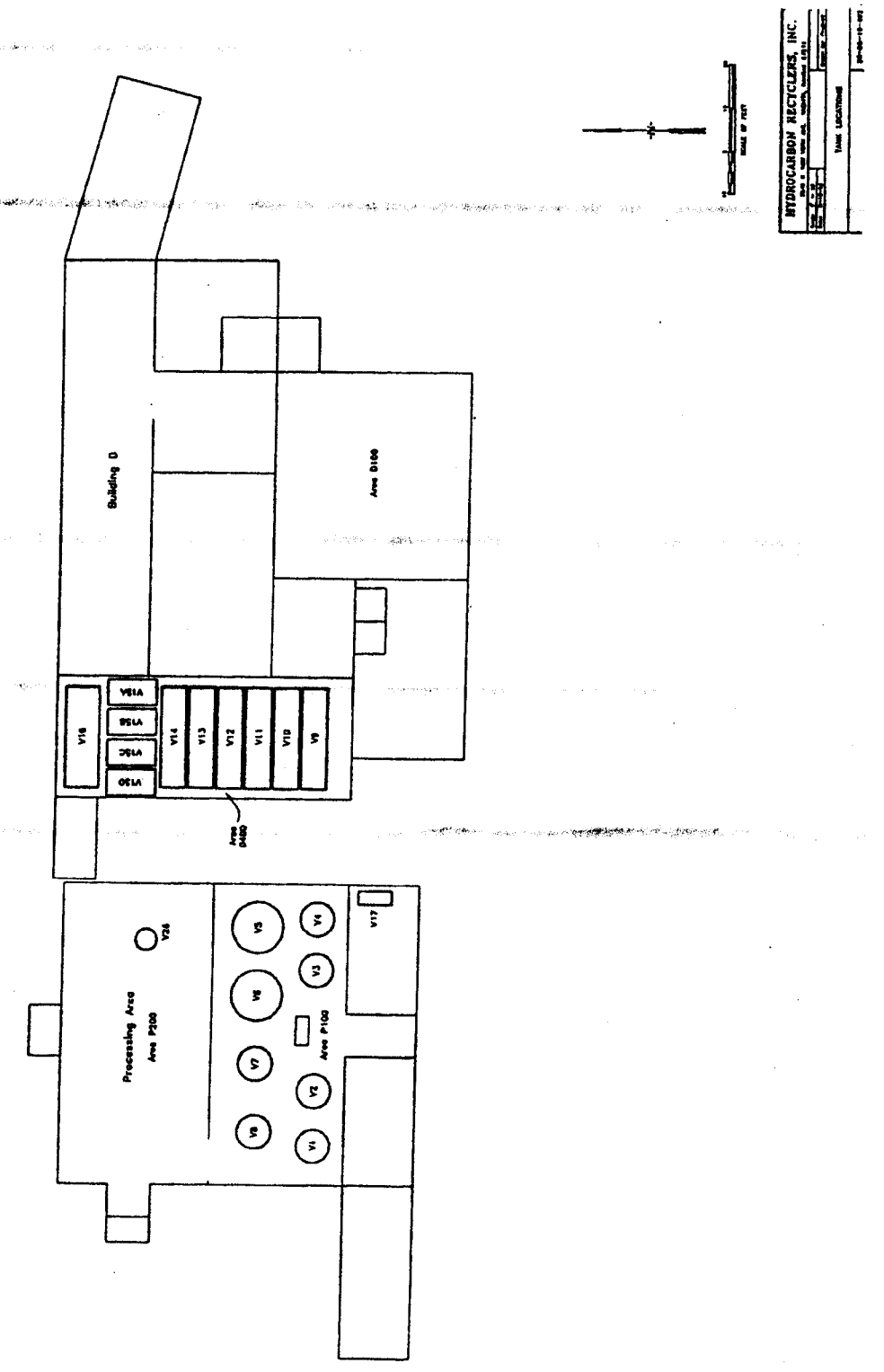

Figure J.2. Tank Locations

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. All associated secondary containment structures (concrete pads, curbs, ramps, etc.).

The buildings which contain tank systems and which do not come into direct contact with hazardous waste or hazardous waste tank systems are not part of the tank system. Therefore, these buildings associated with the tank systems, including floors which are not part of the tank system, will not be subject to the decontamination procedures of this closure plan and may be left in place. However, these walls and floors will be visually inspected and, if evidence of contamination exists, these structures will be cleaned.

The tank units at the Wichita facility may undergo periodic changes and upgrading in order to accommodate required regulatory and capacity changes and improvements in technology. Also, LESW will replace tanks if they become unfit for use. Since each secondary containment system contains several tanks, the Clean Harbors Kansas, LLC facility could potentially close a single tank unit without closing the associated secondary containment system. However,

upon final facility closure all tank systems, including secondary containment, will be closed in accordance with this section.

Clean Harbors Kansas, LLC will close all tanks and/or tank systems at the facility as follows.

1. If modifications to the closure plan are desired and have not been previously approved in accordance with 40 CFR 270.42 and 264.112, the modified portions of the plan will not be implemented until approval by KDHE or other authorized agencies has been received.

2. Clean Harbors Kansas, LLC will close the tanks and/or tank systems in accordance with the schedule outlined in Table J.5, Closure Activity Schedule - Tanks and Tank Systems and as discussed in Section J-9b(3) of this closure plan.

3. Within ninety days after receiving the final volume of hazardous wastes into the tank/tank system, Clean Harbors Kansas, LLC will remove all waste inventory from the unit(s) unless an extension has been requested and approved in accordance with 40 CFR 264.113(a). All waste inventories will be either treated on-site in accordance with the facility's RCRA/HSWA permit

or transported to a permitted TSDF for off-site management.

4. All tanks, ancillary equipment, structures, and secondary containment systems (when applicable) will be:

   A. Dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site disposal facility, or

   B. Decontaminated in accordance with Section J-4a and disposed of at a solid waste landfill, or

   C. Decontaminated in accordance with Section J-4a and either salvaged for future use or left in place.

   D. Successfully decontaminated equipment may be transferred to another TSDF for use.

5. This step applies only when closing an entire tank system, including its secondary containment. If only closing a tank unit, go to Step 6 below. When closing a tank system, LESW will visually inspect the surface soils around the tank system containment area. In accordance with Section J-4a of

this closure plan, any visible evidence of contamination will be evaluated for hazardous constituents and, if contamination is present, subsequently removed for proper disposal or other appropriate off-site management.

At final closure, the soil beneath the secondary containment systems will be closed in accordance with Section J-4a of this closure plan.

6. All wastes generated on-site from closure activities will be handled in accordance with Section J-4b of this closure plan.

7. Clean Harbors Kansas, LLC will complete closure activities within 180 days after receiving either the final volume of hazardous wastes into the tank unit(s) or closure plan approval from the agency, whichever is later, unless an extension has been requested and approved in accordance with 40 CFR 264.113(b).

8. The tank systems are not disposal units, and they have secondary containment meeting the requirements of 40 CFR 264.193(b) through (f). Also, all hazardous wastes and hazardous waste constituents will be removed from the

tanks/tank systems during closure and all structures will be decontaminated in accordance with this closure plan. Therefore, the tank/tank systems are subject to neither the post-closure care requirements of 40 CFR 264.116 through 264.120, nor the contingent post-closure plan requirements of 40 CFR 264.197(c).

J-9b(3) Unit Closure Schedule

Table J.5 outlines the anticipated schedule for the individual closure of a tank/tank system at the Clean Harbors Kansas, LLC facility. During final closure of the facility, all HWMUs may be closed either sequentially or simultaneously and in accordance with the schedule presented in Table J.3.

J-9c Miscellaneous Unit Closure

Partial facility closure, closure of an individual hazardous waste management unit, may be necessary during the active life of the facility. If a miscellaneous unit must be closed during the active life of the facility, it will be closed in accordance with this section. At closure of a miscellaneous unit, all hazardous waste and, to the extent possible, hazardous waste residues will be removed from the unit. Furthermore, the miscellaneous unit, associated ancillary equipment, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be either decontaminated or removed.

J-9c(1) Process and Unit Description

"Miscellaneous Unit" is defined under 40 CFR 260.10 (as of July 1, 1990) as:

> A hazardous waste management unit where hazardous waste is treated, stored, or disposed of, and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR Part 146, or unit eligible for a research, development, and demonstration permit under 40 CFR 270.65.

The Clean Harbors Kansas, LLC facility has miscellaneous units as defined above. Table J.1 and Figure J.3, Miscellaneous Unit Locations (Drawing 50-57-10-001, Miscellaneous Unit Locations presented in Section Y) identify these units and their location at the Wichita facility. A brief description of each unit follows.

1. Shredder Unit - A toothed wheel shredder which reduces bulk objects into shreds.

2. Granulator Unit - A fixed knife shredder which reduces the size of solid objects.

3. Dispersing Unit - A unit which uses agitation to dissolve viscous liquids and solids removed from containers prior to transferring these materials into tanks or containers.

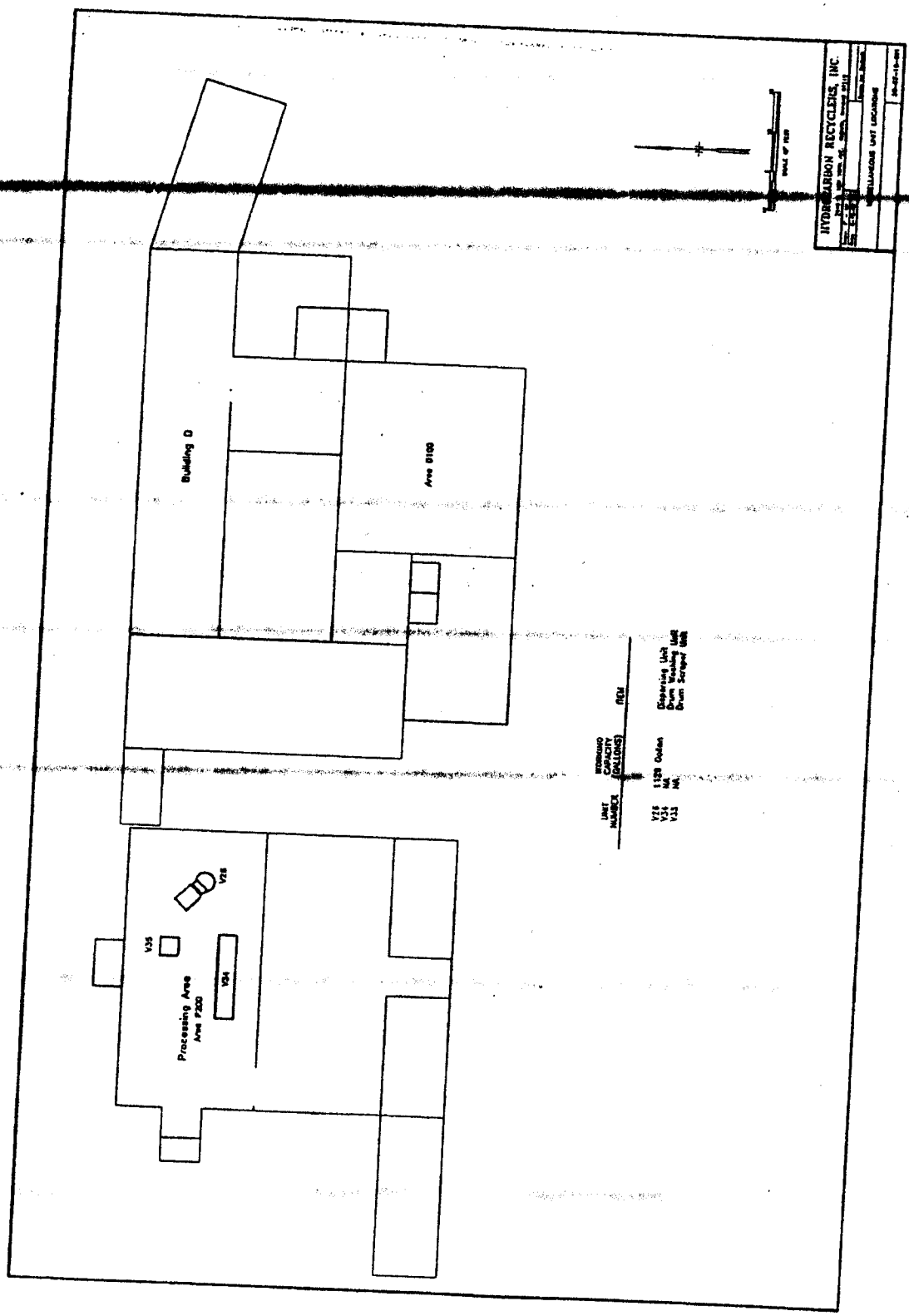

Figure J.3. Miscellaneous Unit Locations

4. Drum Washing Unit - A unit which mechanically removes waste residue from emptied drums.

5. Drum Scraper Unit - A device which loosens solid and viscous material inside a container so the material may be removed from the container for further management (e.g., treatment, storage).

J-9c(2) Unit Closure Procedures

For the purposes of this closure plan, each miscellaneous unit includes the following structures/equipment:

- The unit and associated hazardous wastes, waste residues and constituents;

- Ancillary equipment including, but not limited to, piping, fittings, flanges, valves, and pumps; and

- Associated secondary containment structures (concrete pads, curbs, ramps, etc.).

The buildings which contain miscellaneous units and which do not come into direct contact with hazardous waste or the unit are not part of the miscellaneous unit. Therefore, the buildings associated with the miscellaneous unit, including floors which are not part of the miscellaneous unit system, will not be subject to the decontamination procedures of this closure plan

and may be left in place. However, these walls and floors will be visually inspected and, if evidence of contamination exists, these structures will be cleaned.

The miscellaneous units at the Clean Harbors Kansas, LLC facility may undergo periodic changes, upgrades, or partial closure in order to accommodate required regulatory and capacity changes and improvements in technology. Also, Clean Harbors Kansas, LLC will periodically replace miscellaneous units if they become unfit for use and repair. Since some of the secondary containment systems contain miscellaneous units in addition to tanks and/or CMUs, the facility could potentially close or replace a single miscellaneous unit without closing the associated secondary containment system. However, upon final facility closure all miscellaneous units, including secondary containment, will be closed in accordance with this section.

Clean Harbors Kansas, LLC will close all miscellaneous units at the Wichita facility as follows.

1. If modifications to the closure plan are desired and have not been previously approved in accordance with 40 CFR 270.42 and 264.112, the modified portions of the plan will not be implemented until approval by KDHE or other authorized agencies has been received.

2. Clean Harbors Kansas, LLC will close the miscellaneous unit(s) in accordance with the schedule outlined in Table J-6, Closure Activity Schedule - Miscellaneous Units and discussed in Section J-9c(3) of this closure plan.

3. Within ninety days after receiving the final volume of hazardous wastes into the miscellaneous unit(s), Clean Harbors Kansas, LLC will remove all waste inventory from the unit(s) unless an extension has been requested and approved in accordance with 40 CFR 264.113(a). All waste inventories will be either treated on-site in accordance with the facility's RCRA/HSWA permit or transported to a permitted TSDF for off-site management.

4. The unit(s), ancillary equipment, structures, and secondary containment systems (when applicable) will be:

   A. Dismantled and disposed of as hazardous waste at a RCRA/HSWA permitted off-site disposal facility, or

   B. Decontaminated in accordance with Section J-4a and disposed of at a solid waste landfill, or

C. Decontaminated in accordance with Section J-4a and either salvaged for future use or left in place.

D. Successfully decontaminated equipment may be transferred to another TSDF for use.

5. This step applies only when closing an entire miscellaneous unit system, including its secondary containment. If only closing a miscellaneous unit, go to Step 6 below. When closing the miscellaneous unit(s) and its associated secondary containment, Clean Harbors Kansas, LLC will visually inspect the surface soils around the unit's containment area. Any visible evidence of contamination will be evaluated for hazardous constituents and (if contamination is present) subsequently removed for proper disposal or other off-site management in accordance with Section J-4a of this closure plan.

At final closure, the soil beneath the secondary containment systems will be closed in accordance with Section J-4a of this closure plan.

6. All wastes generated on-site from closure activities will be handled in accordance with Section J-4b of this closure plan.

7. Clean Harbors Kansas, LLC will complete closure activities within 180 days after receiving either the final volume of hazardous wastes into the miscellaneous unit(s) or closure plan approval by the agency (whichever is later), unless an extension has been requested and approved in accordance with 40 CFR 264.113(b).

8. The miscellaneous units are not disposal units. Also, all hazardous wastes and hazardous waste constituents will be removed from the miscellaneous units during closure and all structures will be decontaminated in accordance with this closure plan. Therefore, the miscellaneous units are not subject to the post-closure care requirements of 40 CFR 264.116 through 264.120.

J-9c(3) Unit Closure Schedule

Table J.6 outlines the anticipated schedule for the individual closure of a miscellaneous unit at the Clean Harbors Kansas, LLC facility. During final closure of the facility, all HWMUs may be closed either sequentially or simultaneously and in accordance with the schedule presented in Table J.3.

J-10 Financial Requirements

Closure costs are estimated in Appendix J-B, Closure Cost Estimate.

Financial requirements for hazardous waste TSDFs are addressed in Section K, Financial Requirements of this document.

Endnote

Groundwater Technology, Inc., Draft Remedial Investigation Report for the 29th d RI/FS, August 27, 1991.

APPENDIX J-A

TABLES

TABLE J-1

MAXIMUM EXTENT OF OPERATIONS

Clean Harbors Kansas, LLC - HAZARDOUS WASTE MANAGEMENT UNITS

HWMU[b]	UNIT	Wastes Stored/Function
C	CMU C100[c]	Hazardous waste - Container Management
C	CMU C200	Hazardous waste - Container Management
C	CMU C300	Hazardous waste - Container Management
C	CMU C400	Hazardous waste - Container Management
C	CMU C500	Hazardous waste - Container Management

[b] HWMU - Hazardous Waste Management Unit - All HWMUs at the HRI Wichita facility are either Container Management Areas (C), Tanks/Tank Systems (T), or Miscellaneous Units (M) as defined by 40 CFR 260.10. The unit closure procedures for these units are detailed in Section J-9a, Section J-9b, and Section J-9c respectively.

[c] Each section represents an individually contained area (i.e. CMU). See Figure J.1 for CMU locations.

C	CMU C600	Hazardous waste - Container Management
C	CMU C700	Hazardous waste - Container Management
C	CMU B100	Hazardous waste - Container Management
C	CMU B200	Hazardous waste - Container Management
C	CMU B300	Hazardous waste - Container Management

Clean Harbors Kansas, LLC

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Appendix J-A - Tables

HWMU	UNIT	WASTES STORED/FUNCTION
C	CMU B400	Hazardous waste - Container Management
C	CMU D100	Hazardous waste - Container Management
C	CMU D200	Hazardous waste - Container Management
C	CMU D300	Hazardous waste - Container Management
C	CMU I100	Hazardous waste - Container Management
C	CMU I200	Hazardous waste - Container Management
C	CMU I300	Hazardous waste - Container Management
C	CMU J100	Hazardous waste - Container Management
C	CMU J200	Hazardous waste - Container Management
C	CMU J300	Hazardous waste - Container Management
C	CMU J400	Hazardous waste - Container Management
C	CMU J500	Hazardous waste - Container Management
C	CMU J600	Hazardous waste - Container Management
C	CMU J700	Hazardous waste - Container Management
C	CMU L100	Hazardous waste - Container Management
C	CMU P100	Hazardous waste - Container Management
C	CMU P200	Hazardous waste - Container Management
T	V-1	Hazardous Waste Liquid
T	V-2	Hazardous Waste Liquid
T	V-3	Hazardous Waste Liquid
T	V-4	Hazardous Waste Liquid

HWMU	UNIT	WASTES STORED/FUNCTION
T	V-5	Hazardous Waste Liquid
T	V-6	Hazardous Waste Liquid
T	V-7	Hazardous Waste Liquid
T	V-8	Hazardous Waste Liquid
T	V-9	Hazardous Waste Liquid
T	V-10	Hazardous Waste Liquid
T	V-11	Hazardous Waste Liquid
T	V-12	Hazardous Waste Liquid
T	V-13	Hazardous Waste Liquid
T	V-14	Hazardous Waste Liquid
T	V-15A	Hazardous Waste Liquid
T	V-15B	Hazardous Waste Liquid
T	V-15C	Hazardous Waste Liquid
T	V-15D	Hazardous Waste Liquid
T	V-16	Hazardous Waste Liquid
T	V-17	Hazardous Waste Liquid
M	V-20	Shredder Unit
M	V-21	Granulator Unit
M/T	V-26	Dispersing Unit

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Appendix J-A - Tables

HWMU	UNIT	WASTES STORED/FUNCTION
M	V-34	Drum Washing Unit
M	V-35	Drum Scraping Unit
C	All CMUs	Treatment in Containers

Clean Harbors Kansas, LLC

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Section J

Closure Plan

Appendix J-A - Tables

TABLE J.2 HAS BEEN REMOVED FROM THE CLOSURE PLAN

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TABLE J.3

CLOSURE ACTIVITY SCHEDULE - FINAL FACILITY CLOSURE

Calendar Days Lapsed	Closure Activity
-45	Notification to KDHE or the EPA Region 7 Administrator.
0	Receipt of known final volume of hazardous waste or receipt of final closure plan approval from agency (whichever is later). Begin work-force mobilization.
	Begin treatment and removal of tank waste inventory.
	Begin treatment and removal of container waste inventory.
90	Complete treatment and removal of all hazardous waste inventories.
120	Complete decontamination of tanks, container management units and miscellaneous units.
150	Complete dismantling/removal of all generated wastes, temporary storage units, and decontaminated tanks, equipment, and structures (if removal is necessary).
	Visually inspect surface soils for contamination and begin remediation procedures if necessary.
180	Complete final closure activities.
200	Inspection of facility by a Professional Engineer.

240	Submit a certification of closure to KDHE or the EPA Region 7 Administrator.

TABLE J.4

CLOSURE ACTIVITY SCHEDULE - CONTAINER MANAGEMENT UNIT

Calendar Days Lapsed	Closure Activity
0	Receipt of known final volume of hazardous waste into the container management unit or receipt of closure plan approval from agency (whichever is later). Begin work-force mobilization.
	Begin treatment and removal of waste inventory.
90	Complete treatment and removal of all hazardous waste inventories.
120	Complete emptying all drums and removal of drums from facility.
150	Complete decontamination of secondary containment structures and hazardous waste handling equipment.
	Visually inspect surface soils for contamination and begin remediation procedures if necessary.
180	Complete final closure activities.

TABLE J.5

CLOSURE ACTIVITY SCHEDULE - TANKS AND TANK SYSTEMS

Calendar Days Lapsed	Closure Activity
0	Receipt of known final volume of hazardous waste or receipt of closure plan approval from agency (whichever is later). Begin work-force mobilization.
	Begin treatment and removal of tank waste inventory.
90	Complete treatment and removal of all hazardous waste inventories.
120	Complete decontamination of tanks, ancillary equipment, and secondary containment systems (when applicable).
150	Complete dismantling/removal of decontaminated tanks, equipment, and secondary containment structures (when removal is necessary).
	Visually inspect surface soils for contamination and begin remediation procedures if necessary.
180	Complete final closure activities.

TABLE J.6

CLOSURE ACTIVITY SCHEDULE - MISCELLANEOUS UNITS

Calendar Days Lapsed	Closure Activity
0	Receipt of known final volume of hazardous waste or receipt of closure plan approval from agency (whichever is later). Begin work-force mobilization.
120	Complete decontamination of miscellaneous unit(s), ancillary equipment, and secondary containment systems (when applicable).
150	Complete dismantling/removal of decontaminated miscellaneous unit(s), equipment, and secondary containment structures (when removal is necessary). Visually inspect surface soils for contamination and begin remediation procedures if necessary.
180	Complete final closure activities.

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Appendix J-B - Closure Cost Estimate

APPENDIX J-B

CLOSURE COST ESTIMATE

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Summary - Closure Cost Estimate
Clean Harbors Kansas, LLC
Wichita, Kansas

The following table is a summary of the cost for closing the Clean Harbors Kansas, LLC facility. The figures for closing the facility are set forth assuming the plant has the maximum storage of hazardous waste and that tanks V-29, V-30, V-31, and V-32 are not yet closed. The Closure Cost Estimate has been prepared in accordance with 40 CFR 264.142 (Cost Estimate For Closure). Cost estimate calculations are provided in the seven sections attached. In the first section, the cost for transporting and disposing of the stored waste is calculated. The second section calculates the cost of evaluating and decontaminating soils and concrete. The third section estimates the cost of decontaminating the existing hazardous waste management equipment in the plant. Transportation and disposal of the residues collected are calculated in the next three sections. An independent registered professional engineer's cost is figured into the last section, as required in the Federal Register. Section VII calculates the contingency required by 40 CFR 264.142.

Cost	Section
$828,290.77	Waste Disposal of Maximum Inventory
$145,430.25	Assessment of Soil and Concrete Decontamination
$19,851.75	Equipment Decontamination
$25,379.26	Management of Aqueous Decontamination Residue
$1,562.19	Management of Kiln Fuel Decontamination Residue
$1,350.58	Management of Incinerable Decontamination Residue
$3,640.00	Closure Certification
$1,025,504.80	Subtotal
$153,825.72	Contingency 15%
$1,179,330.52	**Total Closure Cost Estimate**

I. WASTE DISPOSAL OF MAXIMUM INVENTORY

ASSUMPTIONS

55 GALLONS/DRUM
80 DRUMS/LOAD
6000 GALLONS/TANKER
$20.00 /HOUR LAB LABOR

$8.65 /HOUR LABOR
1,100 GALLONS/HOUR PUMPING
75 DRUMS/HOUR LOADING
$3.50 /MILE TRANSPORTATION

STORAGE SUMMARY

VESSEL	CAPACITY
V-1	7,181
V-2	7,084
V-3	7,181
V-4	7,181
V-5	20,895
V-6	20,895
V-7	7,181
V-8	7,181
V-9	5,078
V-10	5,078
V-11	5,078
V-12	5,078
V-13	5,078
V-14	5,078
V-15A	2,659
V-15B	2,659
V-15C	2,659
V-15D	2,659
V-16	9,028
V-17	522
V-18	489
V-28	1,129
V-29	90
V-30	90
V-31	115
V-32	115
TOTAL	137,481

STORAGE BUILDING	STORAGE AREA (SQ.FT.)	STORAGE CAPACITY (GAL)	DRUM EQUIVALENTS (55 GAL)
BUILDING D	13,803	46,640	848
PROCESSING AREA	6,278	9,900	180
BUILDING C	13,520	99,110	1,802
DRUM DOCK	2,880	14,960	272
BUILDING B	7,304	55,000	1,000
BUILDING I	5,292	50,600	920
BUILDING J	6,318	49,280	896
TOTAL	55,175	325,490	5,918

INVENTORY REMOVAL

CONTAINER INVENTORY

DISPOSAL METHOD	PECENTAGES	DRUMS	UNIT COST	DISPOSAL LOCATIOI	MILEAGE	DISPOSAL COST
LIQUID KILN FUEL	7	414	$0.21 /GAL	FREDONIA, KS	100	$4,761.70
SOLID KILN FUEL	40	2367	$50.00 /DRUM	FREDONIA, KS	100	$118,350.00
INCINERATION	30	1776	$3.00 /GAL	COFFEYVILLE, KS	150	$293,040.00
LANDFILL	13	769	$275.00 /DRUM	WAYNOKA, OK	150	$211,475.00
DEEP WELL	3	178	$1.00 /GAL	DALLAS, TX	364	$9,790.00
RECYCLE	7	414	$0.21 /GAL	TULSA, OK	180	$4,761.70
TOTAL	100	5918				$642,218.40

TANK INVENTORY

DISPOSAL METHOD	PECENTAGES	GALLONS	COST	DISPOSAL LOCATIOI	MILEAGE	DISPOSAL COST
LIQUID KILN FUEL	46	63,232	$0.21 /GAL	FREDONIA, KS	100	$13,278.73
INCINERATION	10	13,748	$3.00 /GAL	COFFEYVILLE, KS	150	$41,238.30
DEEP WELL	33	45,382	$1.00 /GAL	DALLAS, TX	364	$45,382.13
RECYCLE	11	15,121	$0.21 /GAL	TULSA, OK	180	$3,175.35
TOTAL	100	137,481				$103,054.51

LABOR

3,138 DRUMS TO LOAD	$361.69 LOADING
2,782 DRUMS TO TANKERS	$1,203.22 PUMPING
137,481 GALLONS TO TANKERS	$1,080.94 PUMPING
	$2,645.84 TOTAL LABOR

TRANSPORTATION

WASTES FROM CONTAINERS

DISPOSAL METHOD	# OF LOADS	DRUMS	DISPOSAL LOCATION	MILEAGE	COST
LIQUID KILN FUEL	4	414	FREDONIA, KS	100	$1,400.00
SOLID KILN FUEL	30	2367	FREDONIA, KS	100	$10,500.00
INCINERATION	17	1778	COFFEYVILLE, KS	150	$8,925.00
LAND FILL	10	789	WAYNOKA, OK	150	$5,250.00
DEEP WELL	2	178	DALLAS, TX	364	$2,548.00
RECYCLE	4	414	TULSA, OK	180	$2,520.00
TOTAL	67	5918			$31,143.00

WASTES FROM TANKS

DISPOSAL METHOD	# OF LOADS	GALLONS	DISPOSAL LOCATION	MILEAGE	COST
LIQUID KILN FUEL	11	83,232	FREDONIA, KS	100	$3,650.00
INCINERATION	3	13,748	COFFEYVILLE, KS	150	$1,575.00
DEEP WELL	8	45,362	DALLAS, TX	364	$10,192.00
RECYCLE	3	15,121	TULSA, OK	180	$1,890.00
TOTAL	25	137,461			$17,507.00

NOTE

SOLIDS (E.G., SOLID KILN FUEL, LANDFILLED WASTES) ARE SHIPPED IN DRUMS AT 80 DRUMS PER LOAD
LIQUIDS ARE SHIPPED IN BULK AT 8000 GALLONS PER LOAD

CONTAINER DISPOSAL

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
DRUM WASHING				
	NO. OF DRUMS	2,782 DRUMS		
	LABOR	$8.65 PER HOUR		
	TIME	60 DRUMS/HOUR		
	KILN FUEL GENERATED	2 GAL/DRUM	5,564 GALLONS KILN FUEL	$401.07 LABOR WASHING
	NOTE			
	THE DRUM WASHER CAN PROCESS 60 DRUMS/HOUR			
	THE WASHER GENERATES 2 GALLONS ADDITIONAL SOLVENT WASTE PER DRUM WASHED			
	TRANSPORTATION AND DISPOSAL OF RESIDUE GENERATED IS CALCULATED IN LATER SECTIONS			
DRUM CRUSHING				
	LABOR	$8.65 PER HOUR		
	TIME	30 DRUMS/HOUR		$802.14 LABOR CRUSHING
	TRANS & DISP	$10.00 PER DRUM		$27,820.00 DRUM DISPOSAL
	NOTE			
	THE DRUM CRUSHER CAN PROCESS 30 DRUMS/HOUR			
	TRANSPORTATION AND DISPOSAL ARE INCLUDED IN THE USPCI COST PER DRUM			
TANK DECONTAMINATION				
TANK WASHING				
	LABOR	$8.65 PER HOUR		
	TIME	4 HOURS/TANK		$2,698.80 LABOR WASHING
	NO. OF TANKS	26 TANKS		
	CREW SIZE	3 MEN/TANK		
	WASTE WATER GENERATED	165 GAL/TANK	4,290 GALLONS WASTE WATER	
	NOTE			
	3--MAN CREW, 4 HOURS/TANK			
	THE RESIDUE VOLUME IS ESTIMATED BASED UPON PAST EXPERIENCE			
SECTION I SUBTOTAL				$828,280.77

II. ASSESSMENT OF SOIL AND CONCRETE CONTAMINATION

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
CORE AND SAMPLE CONCRETE	LABOR	$20.00 PER HOUR		$500.00 LABOR SAMPLING
	EQUIPMENT	$15.00 PER SAMPLE		$375.00 CORING EQUIPMENT
	TIME	1 HOUR/SAMPLE		
	NO. OF SAMPLES	25 SAMPLES		
ANALYSIS	LABORATORY FEE	$1,500.00 FOR TCLP & F SCAN		$37,500.00 ANALYTICAL

NOTE

ASSUME A 6 INCH CONCRETE SLAB
TRANSPORTATION AND DISPOSAL OF RESIDUE GENERATED IS CALCULATED IN LATER SECTIONS

DECONTAMINATE THE CONCRETE	LABOR AND EQUIPMENT	$45.00 PER HOUR		
	TIME	1,500 FT2/HOUR		$1,855.25 DECONTAMINATION
	WASTEWATER GENERATED	300 GAL/HOUR	11035 GALLONS WASTE WATER	
	AREA	55,175 FT2		
SAMPLE AND ANALYZE RINSE WATER	LABOR	$20.00 PER HOUR		$400.00 SAMPLING
	TIME	1 HOUR/SAMPLE		
	EQUIPMENT	$1,500.00 PER SAMPLE		$30,000.00 ANALYTICAL
	# OF SAMPLES	20 SAMPLES		
CONTRACTED HEALTH RISK ASSESSMENT				$75,000.00
SECTION II SUBTOTAL				$145,430.25

III. EQUIPMENT DECONTAMINATION

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
STEAM CLEAN EQUIPMENT (I.E., BOBCAT, FORKLIFT)	LABOR	$8.65 PER HOUR		
	TIME	3 HOURS/LOADER		
	EQUIPMENT	5 LOADERS		
	WASTE WATER GENERATED	100 GAL/HOUR	1,500 GALLONS WASTE WATER	$129.75 LABOR STEAMING
STEAM CLEAN MISCELLANEOUS UNITS	LABOR	$8.65 PER HOUR		
	DISASSEMBLE UNITS	40 HOURS/UNIT		$8,304.00 LABOR STEAMING
	DECONTAMINATE UNITS	40 HOURS/UNIT		$8,304.00 LABOR DISSASSBLING
	NO. OF UNITS	6 UNITS		
	CREW SIZE	4 MEN		
	WASTE WATER GENERATED	300 GAL/UNIT	1,800 GALLONS WASTE WATER	
	INCINERATION GENERATED	0.5 DRUMS/UNIT	3 DRUMS INCINERATION	
STEAM CLEAN DRUM HANDLING EQUIPMENT	LABOR	$8.65 PER HOUR		
	DISASSEMBLE UNITS	2 HOURS/UNIT		$3,114.00 LABOR STEAMING
	DECONTAMINATE UNITS	10 HOURS/UNIT		
	NO. OF UNITS	15 UNITS (OR LESS)		
	CREW SIZE	2 MEN		
	WASTE WATER GENERATED	100 GAL/UNIT	1,500 GALLONS WASTE WATER	
	INCINERATION GENERATED	2 DRUMS	30 DRUMS INCINERATION	

NOTE

TRANSPORTATION AND DISPOSAL OF RESIDUE GENERATED IS CALCULATED IN LATER SECTIONS

SECTION III SUBTOTAL $19,851.75

IV. MANAGEMENT OF AQUEOUS DECONTAMINATION RESIDUE

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
PUMP RESIDUE FROM THE PLANT	VOLUME OF WASTEWATER	20,125 GALLONS		
	LABOR	$8.85 PER HOUR		
	TIME	1100 GALLONS/HOUR		$158.26 LABOR LOADING
DISPOSAL	TRANSPORTATION	$3.50 PER MILE		
	DISTANCE TO DALLAS	384 MILES		
	DISPOSAL FEE	$1.00 PER GALLON		$5,096.00 TRANSPORTATION
	LOAD SIZE	8,000 GAL/LOAD		$20,125.00 DISPOSAL
	NUMBER OF LOADS	4 LOADS		
SECTION IV SUBTOTAL				$25,379.26

V. MANAGEMENT OF KILN FUEL DECONTAMINATION RESIDUE

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
TOTAL KILN FUEL GENERATED		5,584 GALLONS		
LOADING KILN FUEL ON TRUCKS	LABOR	$8.65 PER HOUR		
	TIME	1,100 GAL/HOUR		$43.75 LABOR LOADING
DISPOSAL AND TRANSPORTATION	TRANSPORTATION	$3.50 PER MILE		
	DISTANCE TO FREDONIA	100 MILES		$350.00 TRANSPORTATION
	DISPOSAL FEE	$0.21 PER GALLON		$1,168.44 DISPOSAL
	LOAD SIZE	8000 GALLONS/LOAD		
	NUMBER OF LOADS	1 LOADS		
SECTION V SUBTOTAL				$1,562.19

VI. MANAGEMENT OF INCINERABLE DECONTAMINATION RESIDUE

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
INCINERABLE WASTES GENERATED		5 DRUMS		
LOADING ON TRUCKS	LABOR	$8.65 PER HOUR		
	TIME	75 DRUMS/HOUR		$0.58 LABOR LOADING
TRANSPORTATION AND DISPOSAL	TRANSPORTATION	$3.50 PER MILE		$525.00 TRANSPORTATION
	DISTANCE TO COFFEYVILLE	150 MILES		$825.00 DISPOSAL
	DISPOSAL FEE	$3.00 PER GALLON		
	LOAD SIZE	8000 GALLONS/LOAD		
	NUMBER OF LOADS	1 LOADS		
SECTION VI SUBTOTAL				$1,350.58

VII. CLOSURE CERTIFICATION

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
A. PROFESSIONAL ENGINEERING SERVICES				
CLOSURE CERTIFICATION	ENGINEER'S FEE TIME	$45.50 PER HOUR 80 HOURS		$3,640.00

NOTE

2 SITE INSPECTIONS/WEEK, 4 HOURS/INSPECTION, 8 WEEKS, 8 HOURS OF OF CLOSURE PLAN REVIEW, 8 HOURS FOR CERTIFICATION PREPARATION

SECTION VII SUBTOTAL $3,640.00

VIII. CONTINGENCY AND TOTALS

ACTIVITY	PARAMETER	UNIT VALUES	RESIDUE GENERATED	COST
TOTAL OF SECTION I–V				$1,025,504.80
CONTINGENCY		15.00%		$153,825.72
TOTAL CLOSURE COST ESTIMATE				$1,179,330.52

CLOSURE COST ESTIMATIONS INCORPORATE THE FOLLOWING REFERENCES:

THE RICHARDSON RAPID SYSTEM
PRICESS PLANT CONSTRUCTION
ESTIMATING STANDARDS VOLUME 1
SITE WORK, PILING, CONCRETE
RICHARDSON ENGINEERING, INC.
OCTOBER, 1988

EPA GUIDANCE MANUAL: COST
ESTIMATES FOR CLOSURE AND POST-
CLOSURE PLANS (SUBPARTS G AND H)
OSWER POLICY DIRECTIVE #9478.00-6

HYDROCARBON RECYCLERS, INC.
PAST EXPERIENCE

DISPOSAL FACILITIES UTILIZED FOR DISPOSAL AND TRANSPORTATION COSTS:

APTUS ENVIRONMENTAL SERVICES
HWY. 169 N. INDUSTRIAL PARK
COFFEYVILLE, KANSAS

GIBRALTER WASTEWATERS
DALLAS, TEXAS FACILITY
INJECTION WELL DISPOSAL

SYSTEC
FREDONIA, KANSAS CEMENT
KILN FACILITY
DISPOSAL AS WASTE DERIVED FUEL

U.S. POLLUTION CONTROL, INC.
LONE MOUNTAIN, OKLAHOMA FACILITY
LANDFILL DISPOSAL